

CLAIMS

What is claimed is;

1. An electromagnetic motor adopting a Δ connection structure, which includes a u-phase coil winding unit, a v-phase coil winding unit and a w-phase coil winding unit radially extending from a stator fixed to a rotating shaft and set with a phase difference relative to one another and a first feeding terminal, a second feeding terminal and a third feeding terminal through which a predetermined current is supplied to coils at the individual phases,

wherein said coils are wound at least twice over through a sequence; said first feeding terminal \rightarrow said u-phase coil winding unit \rightarrow said second feeding terminal \rightarrow said v-phase coil winding unit \rightarrow said third feeding terminal \rightarrow said w-phase coil winding unit, so as to form at least two coil layers at each coil winding unit among said u-phase coil winding unit, said v-phase coil winding unit and said w-phase coil winding unit.

2. An electromagnetic motor according to claim 1,

wherein said u-phase coil winding unit, said v-phase coil winding unit and said w-phase coil winding unit are each constituted with a first coil winding unit and a second coil winding unit disposed on a single diagonal; and

wherein said coils are wound at least twice over through a sequence; said first feeding terminal \rightarrow a first u-phase coil winding unit \rightarrow a second u-phase coil winding unit \rightarrow said second feeding terminal \rightarrow a first v-phase coil winding unit \rightarrow said second v-phase coil winding unit \rightarrow said third feeding terminal \rightarrow a first w-phase coil winding unit \rightarrow said second w-phase coil winding unit.

3. An electromagnetic motor adopting a Y connection structure, which includes a

u-phase coil winding unit, a v-phase coil winding unit and a w-phase coil winding unit radially extending from a stator fixed to a rotating shaft with a phase difference relative to each other, a first feeding terminal, a second feeding terminal and a third feeding terminal through which a predetermined current is supplied to coils at the individual phases and a first neutral point, a second neutral point and a third neutral point with potentials equal to one another,

wherein said first through third neutral points are electrically connected with one another via an electrically conductive member at one end surface of said stator or over an area near said one end surface.

4. An electromagnetic motor according to claim 3,
wherein said first through third feeding terminals are disposed at a surface located on a side opposite from said one end surface or in an area near the surface on the opposite side.

5. An electromagnetic motor according to claim 3 or claim 4,
wherein said electrically conductive member includes an extended portion to be connected with a control board.

6. An electromagnetic motor according to any of claims 3 through 5,
wherein said u-phase coil winding unit, said v-phase coil winding unit and said w-phase coil winding unit are each constituted with a first coil winding unit and a second coil winding unit disposed on a single diagonal; and

wherein said coils are wound at least once over through a sequence; said first feeding terminal → a first u-phase coil winding unit → said first neutral point → a first v-phase coil winding unit → said second feeding terminal → a second v-phase coil winding unit → said second neutral point → a first w-phase coil winding unit →

said third feeding terminal → a second w-phase coil winding unit → said third neutral point → a second u-phase coil winding unit → said first feeding terminal.

7. An electromagnetic motor according to any of claims 3 through 5,

wherein said u-phase coil winding unit, said v-phase coil winding unit and said w-phase coil winding unit are each constituted with a first coil winding unit and a second coil winding unit disposed on a single diagonal; and

wherein said coils are wound at least twice over through a sequence; said first feeding terminal → a first u-phase coil winding unit → a second u-phase coil winding unit → said first neutral point → a first v-phase coil winding unit → a second v-phase coil winding unit → said second feeding terminal → said first (second) v-phase coil winding unit → said second (first) v-phase coil winding unit → said second neutral point → said first w-phase coil winding unit → said second w-phase coil winding unit → said third feeding terminal → a first (second) w-phase coil winding unit → a second (first) w-phase coil winding unit → said third neutral point → said first (second) u-phase coil winding unit → said second (first) u-phase coil winding unit → said first feeding terminal, so as to form at least two coil layers at each coil winding unit among said u-phase coil winding unit, said v-phase coil winding unit and said w-phase coil winding unit.